specified in § 22.970(a)(1)(i) of this chapter and § 90.672(a)(1)(i) shall apply;

(ii) For channels 524 to 534—the minimum median desired signal level shall increase linearly from the values specified in § 22.970(a)(1)(i) of this chapter and § 90.672(a)(1)(i) to −70 dBm;

(iii) For channels 534 to 550—the minimum median desired signal level shall increase linearly from −70 dBm to −65 dBm.

(2) Portable units (except in Puerto Rico and the U.S. Virgin Islands):

(i) For channels 511 to 524—the minimum median desired signal levels specified in § 22.970(a)(1)(i) of this chapter and § 90.672(a)(1)(i) shall apply;

(ii) For channels 524 to 530—the minimum median desired signal level shall increase linearly from the values specified in § 22.970(a)(1)(i) of this chapter and § 90.672(a)(1)(i) to −80 dBm;

(iii) For channels 530 to 534—the minimum median desired signal level shall increase linearly from −80 dBm to −70 dBm;

(iv) For channels 534 to 550—the minimum median desired signal level shall increase linearly from −70 dBm to −65 dBm.

(3) Mobile units operating in Puerto Rico and the U.S. Virgin Islands:

(i) For channels 511 to 530—the minimum median desired signal levels specified in § 22.970(a)(1)(i) of this chapter and § 90.672(a)(1)(i) shall apply;

(ii) For channels 531 to 534—the minimum median desired signal level shall increase linearly from −80.2 dBm to −70 dBm;

(iii) For channels 534 to 550—the minimum median desired signal level shall increase linearly from −70 dBm to −65 dBm.

(4) Portable units operating in Puerto Rico and the U.S. Virgin Islands:

(i) For channels 511 to 530—the minimum median desired signal levels specified in § 22.970(a)(1)(i) of this chapter and § 90.672(a)(1)(i) shall apply;

(ii) For channels 531 to 534—the minimum median desired signal level shall increase linearly from −80 dBm to −70 dBm;

(iii) For channels 534 to 550—the minimum median desired signal level shall increase linearly from −70 dBm to −65 dBm.

[69 FR 67843, Nov. 22, 2004, as amended at 70 FR 6760, Feb. 8, 2005; 70 FR 76708, Dec. 28, 2005; 72 FR 39760, July 20, 2007; 75 FR 35317, June 22, 2010; 76 FR 11683, Mar. 3, 2011]

§ 90.619 Operations within the U.S./Mexico and U.S./Canada border areas.

(a) *Use of frequencies in 800 MHz band in Mexico border region.* All operations in the 806–824/851–869 MHz band within 110 km (68.4 miles) of the U.S./Mexico border (''Mexico border region'') shall be in accordance with international agreements between the U.S. and Mexico. Channels 231–710 are offset 12.5 kHz lower in frequency than those specified in the table in § 90.613. Stations located on Mt. Lemmon, serving the Tucson, AZ area, will only be authorized offset frequencies.

(b) *Use of frequencies in 900 MHz Band in Mexico border region.* All operations in the 896–901/935–940 MHz band within the Mexico border region shall be in accordance with international agreements between the U.S. and Mexico.

(1) The channels listed in Table 1 below are available to applicants eligible in the Industrial/Business Pool of subpart C of this part but exclude Special Mobilized Radio Systems as defined in § 90.603(c). These frequencies are available within the Mexico border region. Specialized Mobile Radio (SMR) systems will not be authorized on these frequencies.

For multi-channel systems, channels may be grouped vertically or horizontally as they appear in the following table. Channels numbered above 200 may be used only subject to the power flux density limits stated in paragraph (a)(2) of this section:

TABLE 1—UNITED STATES/MEXICO BORDER AREA, BUSINESS/INDUSTRIAL/LAND TRANSPORTATION POOL 896–901/935–940 MHz BAND

[199 Channels]

Channel Nos.	
11–12–13–14–15	131–132–133–134–135
16–17–18–19–20	136–137–138–139–140

TABLE 1—UNITED STATES/MEXICO BORDER AREA, BUSINESS/INDUSTRIAL/LAND TRANSPORTATION POOL 896–901/935–940 MHz BAND—Continued

[199 Channels]

31–32–33–34–35	231–232–233–234–235
36–37–38–39–40	236–237–238–239–240
51–52–53–54–55	171–172–173–174–175
56–57–58–59–60	176–177–178–179–180
71–72–74–75	271–272–273–274–275
76–77–78–79–80	276–277–278–279–280
91–92–93–94–95	211–212–213–214–215
96–97–98–99–100	216–217–218–219–220
111–112–113–114–115	311–312–313–314–315
116–117–118–119–120	316–317–318–319–320
151–152–153–154–155	351–352–353–354–355
156–157–158–159–160	356–357–358–359–360
191–192–193–194–195	391–392–393–394–395
196–197–198–199–200	396–397–398–399
251–252–253–254–255	331–332–333–334–335
256–257–258–259–260	336–337–338–339–340
291–292–293–294–295	371–372–373–374–375
296–297–298–299–300	376–377–378–379–380

(2) The channels listed in Table 2 of this section are available for operations only to eligibles in the SMR category—which consists of Specialized Mobile Radio (SMR) stations and eligible end users. These frequencies are available in the Mexico border region. The spectrum blocks listed in the table below are available for EA-based services according to § 90.681.

TABLE 2—UNITED STATES-MEXICO BORDER AREA, SMR CATEGORY 896–901/935–940 MHz BAND

[200 Channels]

Block	Channel Nos.
A	1–2–3–4–5–6–7–8–9–10
B	21–22–23–24–25–26–27–28–29–30
C	41–42–43–44–45–46–47–48–49–50
D	61–62–63–64–65–66–67–68–69–70
E	81–82–83–84–85–86–87–88–89–90
F	101–102–103–104–105–106–107–108–109–110
G	121–122–123–124–125–126–127–128–129–130
H	141–142–143–144–145–146–147–148–149–150
I	161–162–163–164–165–166–167–168–169–170
J	181–182–183–184–185–186–187–188–189–190
K	201–202–203–204–205–206–207–208–209–210
L	221–222–223–224–225–226–227–228–229–230
M	241–242–243–244–245–246–247–248–249–250
N	261–262–263–264–265–266–267–268–269–270
O	281–282–283–284–285–286–287–288–289–290
P	301–302–303–304–305–306–307–308–309–310
Q	321–322–323–324–325–326–327–328–329–330
R	341–342–343–344–345–346–347–348–349–350
S	361–362–363–364–365–366–367–368–369–370
T	381–382–383–384–385–386–387–388–389–390

Channels numbered above 200 may only be used subject to the power flux density limits at or beyond the Mexico border as stated in paragraph (4) of this section.

(3) The specific channels that are available for licensing in the band 896–901/935–940 MHz within the Mexico border region are subject to Effective Radiated Power (ERP) and Antenna Height limitations as indicated in Table 3 below.

TABLE 3—LIMITS OF EFFECTIVE RADIATED POWER (ERP) CORRESPONDING TO ANTENNA HEIGHTS OF BASE STATIONS IN THE 896–901/935–940 MHz BANDS WITHIN 110 KILOMETERS (68.4 MILES) OF THE MEXICAN BORDER

Antenna height above mean sea level		ERP in watts (maximum)
Meters	Feet	
0–503	0–1650	500
504–609	1651–2000	350
610–762	2001–2500	200
764–914	2501–3000	140
915–1066	3001–3500	100
1067–1219	3501–4000	75
1220–1371	4000–4500	70
1372–1523	4501–5000	65
Above 1523	Above 5000	5

(4) All channels in the 896–901/935–940 MHz band are available for assignment to U.S. stations within the Mexico border region if the maximum power flux density (pfd) of the station's transmitted signal at any point at or beyond the border does not exceed −107 dB (W/m^2). The spreading loss must be calculated using the free space formula

taking into account any antenna discrimination in the direction of the border. Authorizations for stations using channels allotted to Mexico on a primary basis will be secondary to Mexican operations and conditioned to require that licensees take immediate action to eliminate any harmful interference resulting from the station's transmitted signal exceeding −107 dB (W/m^2).

(c) *Use of 800 MHz Band in Canada Border Region.* All operations in the 806–824/851–869 MHz band within 140 km (87 miles) of the U.S./Canada border (''U.S./Canada border area'') shall be in accordance with international agreements between the U.S. and Canada.

(1) The U.S./Canada border area is divided into the following geographical regions (''Canada Border Regions''). U.S. primary channels are shown in the table by region. The remaining channels are primary to Canada (''Canada Primary channels'').

TABLE C1—GEOGRAPHICAL REGIONS

Region	Location (longitude)	U.S. primary channels
1	66° W–71° W (0–100 km from border)	1–260, 561–710, 772–790 and 792–830.
2	71° W–80°30′ W (0–100 km from border)	1–170, 621–710 and 795–830.
3	80°30′ W–85° W (0–100 km from border)	1–320, 501–710, 729–730, 732–750, 752–770, 772–790 and 792–830.
4	85° W–121°30′ W (0–100 km from border)	1–260, 561–710, 772–790 and 792–830.
5	121°30′ W–127° W (0–140 km from border)	1–260, 561–710, 772–790 and 792–830.
6	127° W–143° W (0–100 km from border)	1–260, 561–710, 772–790 and 792–830.
7A	66° W–71° W (100–140 km from border)	1–830.
7A	80°30′ W–121°30′ W (100–140 km from border)	1–830.
7B	71° W–80°30′ W (100–140 km from border)	1–830.
8	127° W–143° W (100–140 km from border)	1–830.

(2) Stations authorized on U.S. primary channels in all Canada Border Regions, except Region 5, will be subject to the Effective Radiated Power (ERP) and Effective Antenna Height (EAH) limitations listed in Table C2. The Effective Antenna Height is calculated by subtracting the Assumed Average Terrain Elevation (AATE) listed in Table C3 from the antenna height above mean sea level.

TABLE C2—LIMITS OF EFFECTIVE RADIATED POWER (ERP) CORRESPONDING TO EFFECTIVE ANTENNA HEIGHTS (EAH) FOR REGIONS 1, 2, 3, 4, 6, 7 AND 8

Effective Antenna Height (EAH)		ERP watts (maximum)
Metres	Feet	
0–152	0–500	500
153–305	501–1000	125
306–457	1001–1500	40
458–609	1501–2000	20
610–914	2001–3000	10
915–1066	3001–3500	6
Above 1967	Above 3501	5

TABLE C3—ASSUMED AVERAGE TERRAIN ELEVATION (AATE) ALONG THE U.S.-CANADA BORDER

Longitude (Φ) (° West)	Latitude (Ω) (° North)	Assumed average terrain elevation			
		United States		Canada	
		Feet	Metres	Feet	Metres
65 ≤ Φ < 69	Ω < 45	0	0	0	0
"	45 ≤ Ω < 46	300	91	300	91
"	Ω ≥ 46	1000	305	1000	305
69 ≤ Φ < 73	All	2000	609	1000	305
73 ≤ Φ < 74	"	500	152	500	152
74 ≤ Φ < 78	"	250	76	250	76
78 ≤ Φ < 80	Ω < 43	250	76	250	76
"	Ω ≥ 43	500	152	500	152
80 ≤ Φ < 90	All	600	183	600	183
90 ≤ Φ < 98	"	1000	305	1000	305
98 ≤ Φ < 102	"	1500	457	1500	457
102 ≤ Φ < 108	"	2500	762	2500	762
108 ≤ Φ < 111	"	3500	1066	3500	1066
111 ≤ Φ < 113	"	4000	1219	3500	1066

TABLE C3—ASSUMED AVERAGE TERRAIN ELEVATION (AATE) ALONG THE U.S.-CANADA BORDER—Continued

Longitude (Φ) (° West)	Latitude (Ω) (° North)	Assumed average terrain elevation			
		United States		Canada	
		Feet	Metres	Feet	Metres
113 ≤ Φ < 114	"	5000	1524	4000	1219
114 ≤ Φ < 121.5	"	3000	914	3000	914
121.5 ≤ Φ < 127	"	0	0	0	0
Φ ≥ 127	54 ≤ Ω < 56	0	0	0	0
"	56 ≤ Ω < 58	500	152	1500	457
"	58 ≤ Ω < 60	0	0	2000	609
"	60 ≤ Ω < 62	4000	1219	2500	762
"	62 ≤ Ω < 64	1600	488	1600	488
"	64 ≤ Ω < 66	1000	305	2000	609
"	66 ≤ Ω < 68	750	228	750	228
"	68 ≤ Ω < 69.5	1500	457	500	152
"	Ω ≥ 69.5	0	0	0	0

(3) Stations authorized on U.S. primary channels in Canada Border Region 5 will be subject to the Effective Radiated Power (ERP) and Antenna Height Above Mean Sea Level limitations listed in Table C4.

TABLE C4—LIMITS OF EFFECTIVE RADIATED POWER (ERP) CORRESPONDING TO ANTENNA HEIGHT ABOVE MEAN SEA LEVEL FOR REGION 5

Antenna Height Above Mean Sea Level		ERP Watts (maximum)
Metres	Feet	
0–503	0–1650	500
504–609	1651–2000	350
610–762	2001–2500	200
763–914	2501–3000	140
915–1066	3001–3500	100
1067–1219	3501–4000	75
1220–1371	4001–4500	70
1372–1523	4501–5000	65
Above 1523	Above 5000	5

(4) Stations may be authorized on Canada Primary channels in the Canada Border Regions provided the maximum power flux density (PFD) per 25 kHz at or beyond the border does not exceed −107 dB(W/m2). Stations authorized on Canada Primary channels will be secondary to stations in Canada unless otherwise specified in an international agreement between the U.S. and Canada.

(5) Stations authorized to operate within 30 kilometers of the center city coordinates listed in Table C5 may operate according to the band plan for Canadian Border Regions 7A and 7B as indicated below.

TABLE C5—CITIES THAT ARE CONSIDERED TO FALL WITHIN CANDIAN BORDER REGION 7

Location	Coordinates		Canadian border region
	Latitude	Longitude	
Akron, Ohio	41°05′00.2″ N	81°30′39.4″ W	7A
Youngstown, Ohio	41°05′57.2″ N	80°39′01.3″ W	7A
Syracuse, New York	43°03′04.2″ N	76°09′12.7″ W	7B

(6) The channels listed in Table C6 and paragraph (c)(6)(i) of this section are available in the Canada Border Regions for non-cellular operations to eligible applicants in the Public Safety Category which consists of licensees eligible in the Public Safety Pool of subpart B of this part. 800 MHz high density cellular systems as defined in §90.7 are prohibited on these channels.

TABLE C6—PUBLIC SAFETY POOL 806–816/851–861 MHZ BAND CHANNELS IN THE CANADA BORDER REGIONS

Canada Border Region	Channel Nos.	Total
Regions 1, 4, 5 and 6	231–260	30 Channels.
Region 2	See paragraph (c)(6)(i) of this section.	
Region 3	231–320, 501–508	90 Channels.
Regions 7A and 8	269, 289, 311, 399, 439, 270, 290, 312, 400, 440, 279, 299, 319, 339, 359, 280, 300, 320, 340, 360, 309, 329, 349, 369, 389, 310, 330, 350, 370, 390, 313, 353, 393, 441, 461, 314, 354, 394, 448, 468, 321, 341, 361, 381, 419, 328, 348, 368, 388, 420, 351, 379, 409, 429, 449, 352, 380, 410, 430, 450, 391, 392, 401, 408, 421, 428, 459, 460, 469, 470.	70 Channels.
Region 7B	231–260, 269, 289, 311, 399, 439, 270, 290, 312, 400, 440, 279, 299, 319, 339, 359, 280, 300, 320, 340, 360, 309, 329, 349, 369, 389, 310, 330, 350, 370, 390, 313, 353, 393, 441, 461, 314, 354, 394, 448, 468, 315, 355, 395, 435, 475, 316, 356, 396, 436, 476, 317, 357, 397, 437, 477, 318, 358, 398, 438, 478, 321, 341, 361, 381, 419, 328, 348, 368, 388, 420, 331, 371, 411, 451, 491, 332, 372, 412, 452, 492, 333, 373, 413, 453, 493, 334, 374, 414, 454, 494, 335, 375, 415, 455, 495, 336, 376, 416, 456, 496, 337, 377, 417, 457, 497, 338, 378, 418, 458, 498, 351, 379, 409, 429, 449, 352, 380, 410, 430, 450, 391, 392, 401, 408, 421, 428, 459, 460, 469, 470, 431, 432, 433, 434, 471, 472, 473, 474, 479, 480.	170 Channels.

(i) Channel numbers 1–230 are also available to eligible applicants in the Public Safety Category in the Canada Border Regions. The assignment of these channels will be done in accordance with the policies defined in the Report and Order of Gen. Docket No. 87–112 (See § 90.16). The following channels are available only for mutual aid purposes as defined in Gen. Docket No. 87–112: Channels 1, 39, 77, 115, 153.

(ii) [Reserved]

(7) The channels listed in Table C7 are available in the Canada Border Regions for the General Category. All entities will be eligible for licensing on these channels. 800 MHz high density cellular systems as defined in § 90.7 are permitted on these channels only as indicated in Table C7. The channels noted for Regions 1, 2, 3, 4, 5 and 6 where high density cellular systems are prohibited are all frequencies that are primary to Canada. Stations may be licensed on these Canada Primary channels according to paragraph (c)(4) of this section.

TABLE C7—GENERAL CATEGORY 806–821/851–866 MHZ BAND CHANNELS IN THE CANADA BORDER REGIONS

Canada border region	General category channels where 800 MHz high density cellular systems are prohibited	General category channels where 800 MHz high density cellular systems are permitted
Regions 1, 4, 5 and 6	261–560	561–710
Region 2	231–620	621–710
Region 3	321–500	509–710
Regions 7A and 8	231–260, 511–550	None
Region 7B	511–550	None

(8) The channels listed in Table C8 are available in the Canada Border Regions to applicants eligible in the Industrial/Business Pool of subpart C of this part but exclude Special Mobilized Radio Systems as defined in § 90.603(c). 800 MHz cellular high density systems as defined in § 90.7 are prohibited on these channels.

TABLE C8—BUSINESS/INDUSTRIAL/LAND TRANSPORTATION POOL 806–816/851–861 MHZ BAND CHANNELS IN THE CANADA BORDER REGIONS

Canada Border Region	Channel Nos.	Total
Regions 1, 2, 3, 4, 5 and 6	None	0 Channels.

TABLE C8—BUSINESS/INDUSTRIAL/LAND TRANSPORTATION POOL 806–816/851–861 MHZ BAND CHANNELS IN THE CANADA BORDER REGIONS—Continued

Canada Border Region	Channel Nos.	Total
Regions 7A, 7B and 8	261, 271, 281, 291, 301, 262, 272, 282, 292, 302, 263, 273, 283, 293, 303, 264, 274, 284, 294, 304, 265, 275, 285, 295, 305, 266, 276, 286, 296, 306, 267, 277, 287, 297, 307, 268, 278, 288, 298, 308, 322, 362, 402, 442, 482, 323, 363, 403, 443, 483, 324, 364, 404, 444, 484, 325, 365, 405, 445, 485, 326, 366, 406, 446, 486, 327, 367, 407, 447, 487, 342, 382, 422, 462, 502, 343, 383, 423, 463, 503, 344, 384, 424, 464, 504, 345, 385, 425, 465, 505, 346, 386, 426, 466, 506, 347, 387, 427, 467, 507.	100 Channels.

(9) The channels listed in Table C9 are available in the Canada Border Regions to applicants eligible in the SMR category—which consists of Specialized Mobile Radio (SMR) stations and eligible end users. 800 MHz high density cellular systems, as defined in §90.7, are prohibited on these channels.

TABLE C9—SMR CATEGORY 806–816/851–861 MHZ CHANNELS AVAILABLE FOR SITE-BASED LICENSING IN THE CANADA BORDER REGIONS

Canada Border Region	Channel Nos.	Total
Regions 1, 2, 3, 4, 5 and 6	None	0 Channels.
Regions 7A and 8	315, 355, 395, 435, 475, 316, 356, 396, 436, 476, 317, 357, 397, 437, 477, 318, 358, 398, 438, 478, 331, 371, 411, 451, 491, 332, 372, 412, 452, 492, 333, 373, 413, 453, 493, 334, 374, 414, 454, 494, 335, 375, 415, 455, 495, 336, 376, 416, 456, 496, 337, 377, 417, 457, 497, 338, 378, 418, 458, 498, 431, 432, 433, 434, 471, 472, 473, 474, 479, 480, 481, 488, 489, 490, 499, 500, 501, 508, 509, 510.	80 Channels.
Region 7B	481, 488, 489, 490, 499, 500, 501, 508, 509, 510	10 Channels.

(10) The channels listed in Table C10 are available in the Canada Border Regions to applicants eligible in the SMR category—which consists of Specialized Mobile Radio (SMR) stations and eligible end users. ESMR licensees who employ 800 MHz high density cellular systems, as defined in §90.7, are permitted to operate on these channels. Some of the channels listed in Table C10 are primary to Canada as indicated in paragraph (c)(1) of this section. ESMR systems may be authorized on these Canada Primary channels according to paragraph (c)(4) of this section.

TABLE C10—ESMR CATEGORY 817–824/862–869 MHZ CHANNELS AVAILABLE FOR 800 MHZ HIGH DENSITY SYSTEMS

Canada Border Region	Channel Nos.	Total
Regions 1, 2, 3, 4, 5 and 6	711–830	120 Channels.
Regions 7A, 7B and 8	551–830	280 Channels.

(11) In Canada Border Regions 1, 2, 3, 4, 5 and 6, the following General Category channels are available for licensing to all entities except as described below in paragraphs (c)(11)(i) and (c)(11)(ii): in Regions 1, 4, 5 and 6, channels 261–560; in Region 2, channels 231–620 and in Region 3, channels 321–500.

(i) In a given 800 MHz NPSPAC region, the General Category channels listed paragraph (c)(11) of this section which are vacated by licensees relocating to channels 711–830 and which remain vacant after band reconfiguration will be available for licensing as follows:

(A) Only to eligible applicants in the Public Safety Category until three years after the release of a public notice announcing the completion of band reconfiguration in that region;

(B) Only to eligible applicants in the Public Safety or Critical Infrastructure Industry Categories from three to five years after the release of a public notice announcing the completion of band reconfiguration in that region; and

(C) To all entities five years after release of a public notice announcing the completion of band reconfiguration in that region.

(ii) The General Category channels listed in paragraph (c)(11) of this section are primary to Canada. Stations may be authorized on these Canada Primary channels according to paragraph (c)(4).

(12) In Canada Border Regions 7A, 7B and 8, the following channels will be available as described in paragraphs (c)(12)(i) and (c)(12)(ii) of this section: for Canada Border Regions 7A and 8, channels 231–260 and channels below 471 in Tables C8 and C9; for Canada Border Region 7B all channels in Tables C8 and C9.

(i) In a given 800 MHz NPSPAC region, the channels listed paragraph (c)(12) of this section which are vacated by licensees relocating to channels 511–830 and which remain vacant after band reconfiguration will be available as follows:

(A) Only to eligible applicants in the Public Safety Category until three years after the release of a public notice announcing the completion of band reconfiguration in that region; and

(B) Only to eligible applicants in the Public Safety or Critical Infrastructure Industry Categories from three to five years after the release of a public notice announcing the completion of band reconfiguration in that region.

(ii) Five years after the release of a public notice announcing the completion of band reconfiguration in a given 800 MHz NPSPAC region, the channels listed in paragraph (c)(12) of this section will revert back to their original pool categories.

(d) *Use of 900 MHz Band in Canada Border Region.* All operations in the 896–901/935–940 MHz band within the Canada border region shall be in accordance with international agreements between the U.S. and Canada. The following criteria shall govern the assignment of frequency pairs (channels) in the 896–901/935–940 MHz band for stations located in the U.S./Canada border area. They are available for assignments for conventional or trunked systems in accordance with applicable sections of this subpart.

(1) Channels 1–399, as listed in § 90.613 table of 896–901/935–940 MHz Channel Designations, are available to eligible applicants for use in the U.S./Canada border area as shown in table 27. Additionally, Channels 71, 75, 79, 151, 155, and 159 are available in all regions only for implementation of an Advanced Train Control System as defined in 3 FCC Rcd 427 (1988) (Advanced Train Control Waiver).

TABLE 27—CHANNELS IN THE 896–901/935–940 MHZ FREQUENCY BANDS AVAILABLE IN THE U.S./CANADA BORDER AREA

Region	Location (longitude)	Channels
1	66° W–71° W. (0–100 km from border) ...	1–200, 398, 399
2	71° W–80°30′ W (0–100 km from border)	1–120
3	80°30′ W–85° W (0–100 km from border)	1–340
4	85° W–121°30′ W (0–100 km from border).	1–200, 398, 399
5	121°30′ W–127° W (0–140 km from border).	1–200, 398, 399
6	127° W–143° W (0–100 km from border)	1–200, 398, 399
7	66° W–121°30′ W (100–140 km from border).	1–399
8	127° W–143° W (100–140 km from border).	1–399

Note: For assignments in the 896–901/935–940 MHz bands, the cities of Akron, Ohio (41°05′00″ N, 81°30′40″ W) and Youngstown, Ohio (41°05′57″ N, 80°39′02″ W) are considered outside of Region 3, and Syracuse, New York (43°03′04″ N, 76°09′14″ W) is considered outside of Region 2. These cities are defined as an area with the given center coordinates and encompassing a circle of 30 km radius.

(2) All frequency assignments made pursuant to paragraph (d)(1) of this section shall comply with the requirements of § 90.619(b).

(3) In Region 5, Channels 201–397 may be authorized in the United States under the following conditions:

(i) An assignment may be made if the predicted power flux density (PFD) of a proposed station's signal does not exceed –107 dBW/m^2 at the border. The prediction of the PFD is calculated based upon a modified Longley-Rice point-to-point propagation model with time and location variabilities of 10

percent[3] and 3-second digitized terrain date[4].

(ii) Authorizations for Channels 201–397 in Region 5 are secondary to Canadian operations and conditioned to require that licensees take immediate action to eliminate any harmful interference resulting from the station's transmitted signal exceeding –107 dBW/m^2 at or beyond the U.S./Canada border.

(4) Channel assignments for stations to be located in the geographical area in Region 1 enclosed by the United States-Canada border, the meridian 71° W and the line beginning at the intersection of 44°25′ N, 71° W, then running by great circle arc to the intersection of 45° N, 70° W, then North along meridian 70° W to the intersection of 45°45′ N, then running West along 45°45′ N to the intersection of the United States-Canada border, will be only for channels 121 through 160, inclusive, and will be limited to assignments with 11 kHz or less necessary bandwidth. Coordination with Canada will be required for these channels.

(5) Channel assignments for stations to be located in the geographical area in Region 3 enclosed by the meridian of 81° W longitude, the arc of a circle of 100 km radius centered at 42°39′30″ N latitude and 81° W longitude at the northern shore of Lake Erie and drawn clockwise from the southerly intersection with 80°30′ W longitude to intersect the United States-Canada border West of 81° W, and the United States-Canada border, will be only for channels 121 through 230, inclusive, and will be limited to assignments with 11 kHz or less necessary bandwidth. Coordination with Canada will be required for these channels. U.S. stations must protect Canadian stations operating on channels 121 through 230 within an area of 30 km radius from the center city coordinates (referenced to North American Datum 1983 (NAD83)) of London, Ontario (42°59′00.1″ N, 81°13′59.5″ W).

(6) *Additional channels available*—The channels listed in table 28 are available for assignment in Regions 1–6 if the maximum power flux density (PFD) of the station's transmitted signal does not exceed the limits specified in tables 29 and 30. The spreading loss shall be calculated using the free space formula taking into account any antenna discrimination in the direction of the border.

[3] See note 1, paragraph (c) of this section.

[4] See note 2, paragraph (c) of this section.

TABLE 28—ADDITIONAL CHANNELS AVAILABLE

[Regions 1–6]

Region	Channel No.'s	Effective radiated power
1	201–397	See Table 29
2	121–399	See Table 29
3	341–399	See Table 29
4	201–397	See Table 29
5	201–397	See Table 30
6	201–397	See Table 29

Authorizations for stations using these channels will be secondary to Canadian operations and conditioned to require that licensees take immediate action to eliminate any harmful interference resulting from the station's transmitted signal exceeding the values specified in tables 29 or 30 at or beyond the U.S./Canada border.

TABLE 29—MAXIMUM POWER FLUX DENSITY (PFD) AT THE U.S./CANADA BORDER CORRESPONDING TO EFFECTIVE ANTENNA HEIGHT

[Regions 1, 2, 3, 4, and 6]

Effective antenna height (EAH)		PFD (dBW/m^2)
Feet	Meters	
0–500	0–152	−84
501–1000	153–305	−90
1001–1500	306–457	−95
1501–2000	458–609	−98
2001–2500	610–762	−101
2501–3000	763–914	−101
3001–3500	915–1066	−103
3501–4000	1067–1219	−104
Above 4000	Above 1219	−104

TABLE 30—MAXIMUM POWER FLUX DENSITY (PFD) AT THE U.S./CANADA BORDER CORRESPONDING TO ANTENNA HEIGHT ABOVE MEAN SEA LEVEL

[Region 5]

Antenna height above mean sea level		PFD (dBW/m^2)
Feet	Meters	
0–1650	0–503	−87.0
1651–2000	504–609	−88.5
2001–2500	610–762	−91.0
2501–3000	763–914	−92.5
3001–3500	915–1066	−94.0
3501–4000	1067–1219	−95.0
4001–4500	1220–1371	−95.5
4501–5000	1372–1523	−96.0
Above 5000	Above 1523	−107.0

(Secs. 4(i) and 303, Communications Act, as amended, and 5 U.S.C. 553 (b)(3)(B) and (d)(1))

[47 FR 41032, Sept. 16, 1982; 47 FR 41045, Sept. 16, 1982]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 90.619, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and on GPO Access.

§ 90.621 Selection and assignment of frequencies.

(a) Applicants for frequencies in the Public Safety and Business/Industrial/Land Transportation Categories must specify on the application the frequencies on which the proposed system will operate pursuant to a recommendation by the applicable frequency coordinator. Applicants for frequencies in the SMR Category must request specific frequencies by including in their applications the frequencies requested.

(1) For trunked systems, the assignment of frequencies will be made in accordance with applicable loading criteria and in accordance with the following:

(i) Channels will be chosen and assigned in accordance with §§ 90.615, 90.617, or 90.619.

(ii) A mobile station is authorized to transmit on any frequency assigned to its associated base station.

(iii) There are no limitations on the number of frequencies that may be trunked. Authorizations for non-SMR stations may be granted for up to 20 trunked frequency pairs at a time in accordance with the frequencies listed in §§ 90.615, 90.617, and 90.619.

(2) For conventional systems the assignment of frequencies will be made in accordance with applicable loading criteria. Accordingly, depending upon the number of mobile units to be served, an applicant may either be required to share a channel, or, if an applicant shows a sufficient number of mobile units to warrant the assignment of one or more channels for its exclusive use, it may be licensed to use such channel or channels on an unshared basis in the area of operation specified in its application.

(i) Channels will be chosen and assigned in accordance with §§ 90.615, 90.617, or 90.619.

(ii) A mobile station is authorized to transmit on any frequency assigned to its associated base station.

(b) Stations authorized on frequencies listed in this subpart, except for those stations authorized pursuant to paragraph (g) of this section and EA-based and MTA-based SMR systems, will be assigned frequencies solely on the basis of fixed distance separation criteria. The separation between co-channel systems will be a minimum of 113 km (70 mi) with one exception. For incumbent licensees in Channel Blocks F1 through V, that have received the consent of all affected parties or a certified frequency coordinator to utilize an 18 dBμV/m signal strength interference contour (*see* § 90.693), the separation between co-channel systems will be a minimum of 173 km (107 mi). The following exceptions to these separations shall apply:

(1) Except as indicated in paragraph (b)(4) of this section, no station in Channel Blocks A through V shall be less than 169 km (105 mi) distant from a co-channel station that has been granted channel exclusivity and authorized 1 kW ERP on any of the following mountaintop sites: Santiago Peak, Sierra Peak, Mount Lukens, Mount Wilson (California). Except as indicated in paragraph (b)(4) of this section, no incumbent licensee in Channel Blocks F1 through V that has received the consent of all affected parties or a certified frequency coordinator to utilize an 18 dBμV/m signal strength interference contour shall be less than 229 km (142 mi) distant from a co-channel station that has been granted channel exclusivity and authorized 1 kW ERP on any of the following mountaintop sites: Santiago Peak, Sierra Peak, Mount Lukens, Mount Wilson (California).

(2) The separation between co-channel stations that have been granted exclusivity and that are located at high sites in California north of 35° N Latitude and west of 118° W Longitude shall be determined as follows:

(i) Required co-channel separations between common antenna sites are given by table 1. A channel group assigned to a station on a site listed in the vertical column may not be re-assigned to a station on a site listed in